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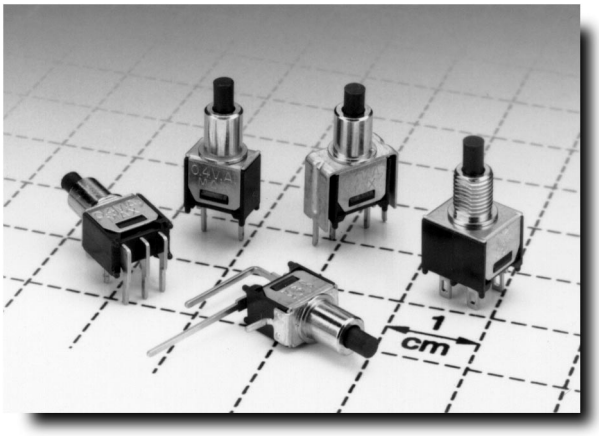
Jameco Part Number 200774



Features/Benefits

- *Subminiature size—capable of switching 1 AMP*
- *Vertical & right angle terminations*
- *PC & panel mount models*
- *Snap-in front panel mounting available*

Models Available

Typical Applications

- *Telecommunications and networking equipment*
- *Computers and peripherals*
- *Instrumentation and controls*

Build-A-Switch

Our easy Build-A-Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box. Switches with standard options are shown on pages B-11 and B-12. Available options are shown and described on pages B-12 thru B-16. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all “bottom-wash” PCB cleaning methods.

Typical Example: T P 1 1 — S H 8 — A — B — E — — —

Switch Function
- TP11 **(STD.) SPST Off-Mom.**
- TP12 **(STD.) SPDT On-Mom.**
- TP21 DPST Off-Mom.

Actuator or Bushing
- SH **(STD.) .155" high plunger, unthreaded, .220" high bushing, round**
- SH8 **(STD.) .155" high plunger, unthreaded, .220" high bushing**, flat
- SH9 **(STD.) .155" high plunger, .220" high bushing**
- J80 Snap-in
- J81 Snap-in with frame
- LT .215" high plunger, .310" high bushing, flat
- LT9 .215" high plunger, unthreaded, .310" high bushing, flat
- MS9 .130" high plunger, .020" high bushing, round

Terminations
- A **(STD.) Right angle, PC thru-hole**
- C **(STD.) PC Thru-hole**
- Z **(STD.) Solder lug**
- AV Vertical right angle, PC thru-hole
- V3 Vertical mount, v-bracket
- W Wire wrap

Contact Material
- B **(STD.) Gold**
- Q **(STD.) silver**
- K Gold
- M silver
- G Gold over silver
- L Gold over silver

Seal
- E **(STD.) Epoxy**

Cap Color
- 2 **(STD.) Black**
- NONE Models with no cap
- 1 White
- 3 Red

Frame Color
- 2 **(STD.) Black**
- NONE Models with no frame

Specifications

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material: 1 AMP @ 120 V AC or 28 V DC. See page B-16 for additional ratings.

ELECTRICAL LIFE: TP11, TP21 MODELS: 60,000 make-and-break cycles at full load.
TP12 MODELS: 30,000 cycles.

CONTACT RESISTANCE: Below 20 milliohms typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10^9 ohms min.

DIELECTRIC STRENGTH: 1000 V RMS min. @ sea level.

OPERATING TEMPERATURE: –30°C to 85°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Materials

CASE: Glass filled nylon 6/6, flame retardant, heat stabilized or diallyl phthalate (DAP), (UL 94V-0).

PLUNGER: Thermoplastic polyester (UL 94V-0).

CAP & FRAME: Nylon, black standard.

BUSHING: Brass, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass, tin plated.

END CONTACTS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Coin silver, silver plated. See page B-16 for additional contact materials.

CENTER CONTACT & ALL TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page B-16 for additional contact materials.

TERMINAL SEAL: Epoxy.

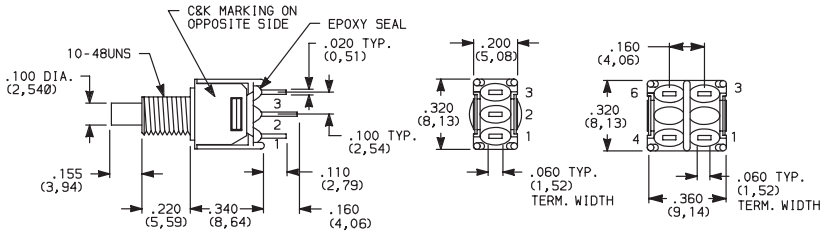
HARDWARE: Nut & Locking Ring: Brass nickel plated. Lockwasher: Steel, nickel plated.

SWITCHES WITH STANDARD OPTIONS

PART NUMBER	FUNCTION	POS. 1	POS. 2
TP11SHZQE	SPST	OFF	MOM.
TP12SHZQE	SPDT	ON	MOM.
TP21SHZQE	DPST	OFF	MOM.

MOM. = Momentary

NOTE: For PC termination, replace 'Z' with 'C'.
For panel & PC mounting information, see page B-13.



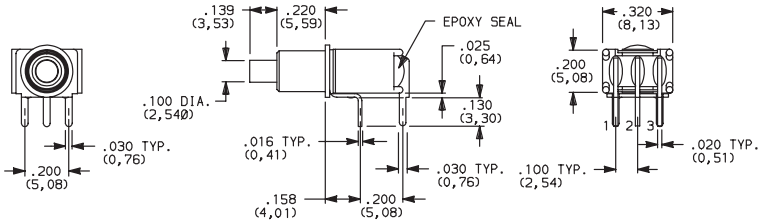
Omit center terminals for SPST & DPST models.

TP12SHZQE
SPDT

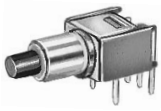
PART NUMBER	FUNCTION	POS. 1	POS. 2
TP11SH8ABE	SPST	OFF	MOM.
TP12SH8ABE	SPDT	ON	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-14.



Omit center terminal for SPST models.

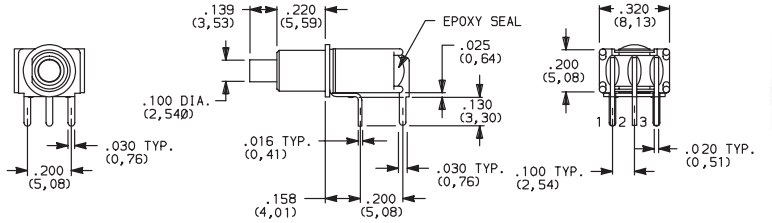


TP12SH8ABE
SPDT

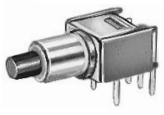
PART NUMBER	FUNCTION	POS. 1	POS. 2
TP11SH9ABE	SPST	OFF	MOM.
TP12SH9ABE	SPDT	ON	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-14.



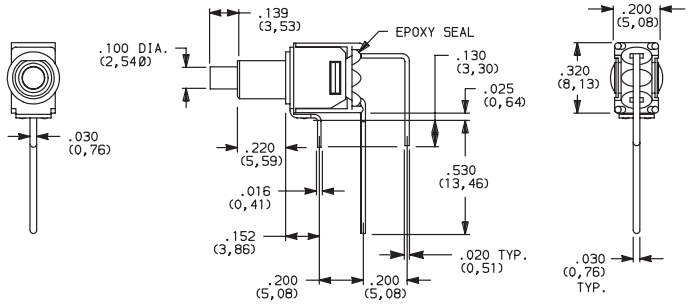
Omit center terminal for SPST models.



TP12SH9ABE
SPDT

SWITCHES WITH STANDARD OPTIONS

TP11SH9AVBE
SPST



PART NUMBER	FUNCTION	POS. 1	POS. 2
TP11SH9AVBE	SPST	OFF	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-14.

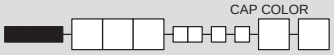
SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION POS. 1	SWITCH FUNCTION POS. 2	CONNECTED TERMINALS POS. 1	CONNECTED TERMINALS POS. 2	SCHEMATIC
SP	TP11 (STD.)	OFF	MOM.	OPEN	1-3	SPST 1 3
	TP12 (STD.)	ON	MOM.	2-1	2-3	SPDT NC 1 2 (COMMON) 3 NO
DP	TP21	OFF	MOM.	OPEN	1-3,4-6	DPST 1 3 4 6

MOM. = Momentary

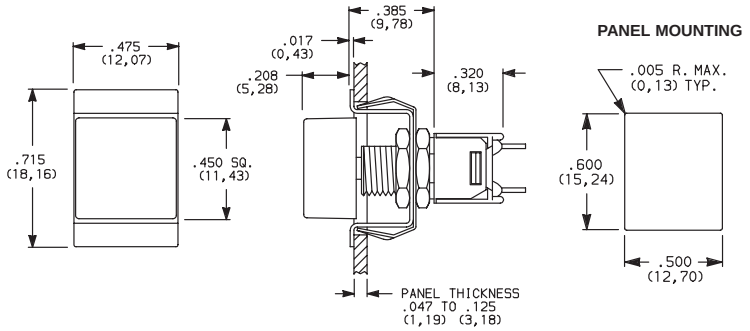
All models ® with all options when ordered with G, L, M or Q contact material.

ACTUATOR—SNAP-IN FRONT MOUNT



J80 SNAP-IN

TP11J80ZQE
SPST

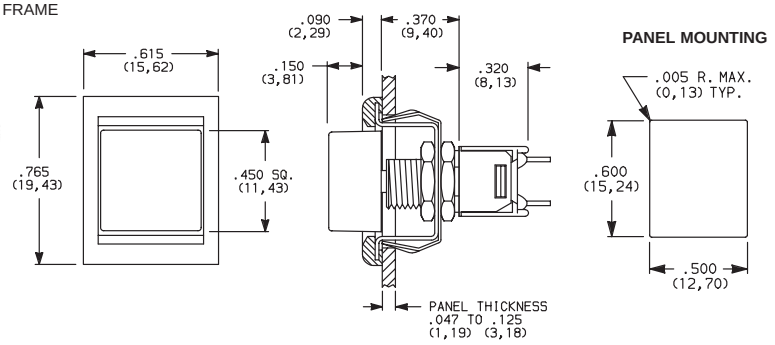


NOTE: No frame color choice required.

OPTION CODE	CAP COLOR
2	(STD.) BLACK
1	WHITE
3	RED

J81 SNAP-IN WITH FRAME

TP11J81ZQE
SPST



OPTION CODE	FRAME COLOR
2	(STD.) BLACK
NONE	No Frame Color (J80 option)

Cap and Frame Finish: matte. Other colors available, consult Customer Service Center.

NOTE: Available with Z, C, or W terminations.

BUSHING

ACTUATOR OR BUSHING

SH (STD.) .155" HIGH PLUNGER, .220" HIGH BUSHING, THREADED, FLAT

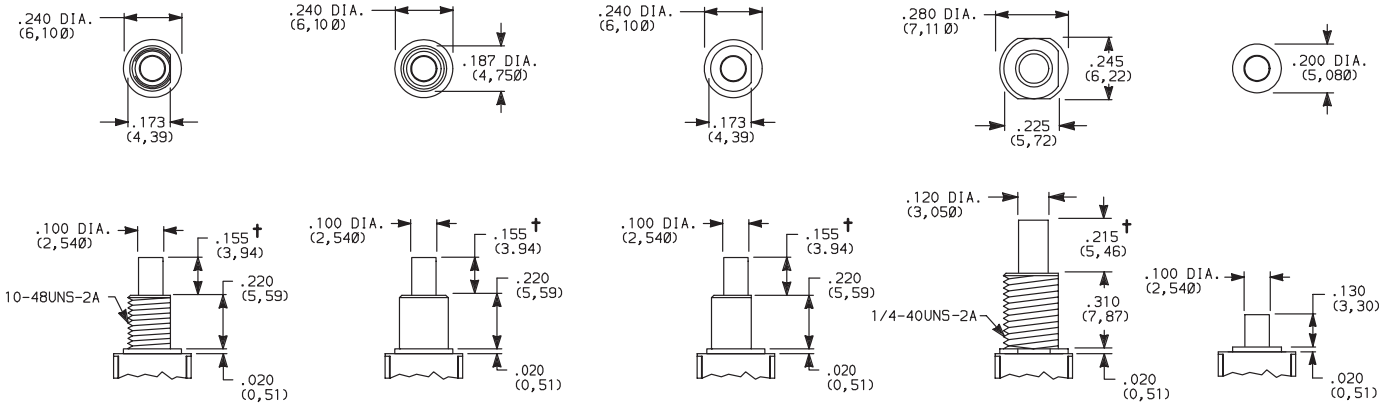
SH8 (STD.) .155" HIGH PLUNGER, .220" HIGH BUSHING, UNTHREADED

SH9 (STD.) .155" HIGH PLUNGER, .220" HIGH BUSHING, UNTHREADED, FLAT

LT .215" HIGH PLUNGER, .310" HIGH BUSHING, THREADED

LT9 .215" HIGH PLUNGER, .310" HIGH BUSHING, UNTHREADED

MS9 .130" HIGH PLUNGER



Standard with Z, C, W terminations.

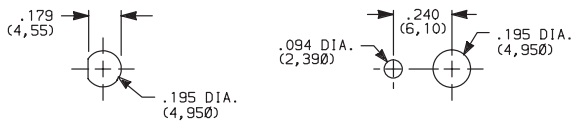
Standard with A, AV, V3 terminations.

Not available with Z terminations.

† Subtract .016 (0,41) for models with A, AV or V3 terminations.

PANEL MOUNTING

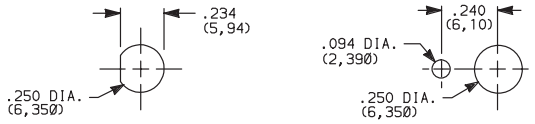
10-48 BUSHING



Without locking ring

With standard locking ring

1/4 IN. BUSHING



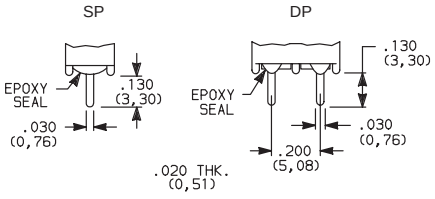
Without locking ring

With standard locking ring

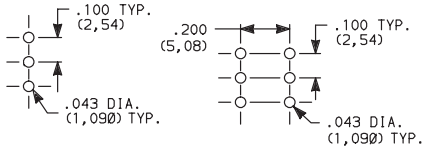
NOTE: One mounting nut, locking ring and lockwasher supplied standard with 10-48 threaded bushings (two nuts with 1/4-40 bushings). Optional mounting nut and locking ring styles and finishes available separately, see section L.

TERMINATIONS

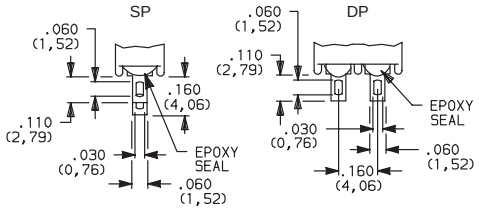
C (STD.) PC THRU-HOLE



PC MOUNTING

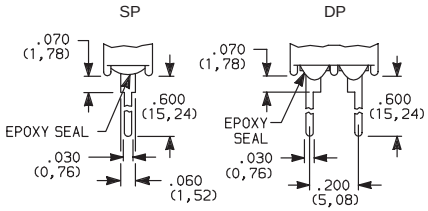


Z (STD.) SOLDER LUG



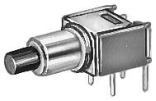
Not available with MS9 bushing or K, L or M contact material.

W WIRE WRAP

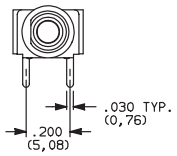


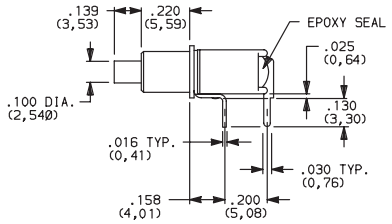
TERMINATIONS

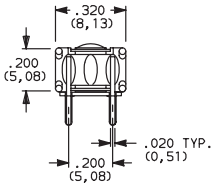
A (STD.) RIGHT ANGLE, PC THRU-HOLE



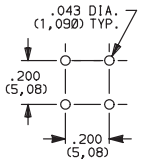
TP11SH9ABE
SPST







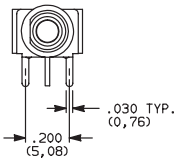
PC MOUNTING

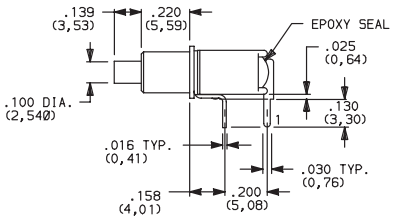


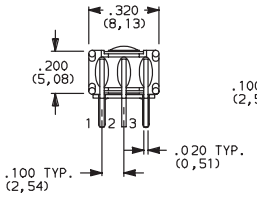
TP11 Only

A (STD.) RIGHT ANGLE, PC THRU-HOLE

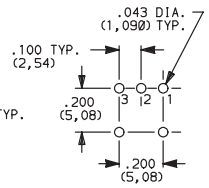
TP12SH9ABE
SPDT





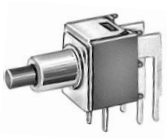


PC MOUNTING

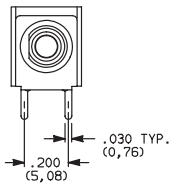


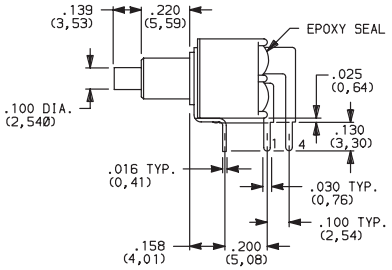
TP12 Only

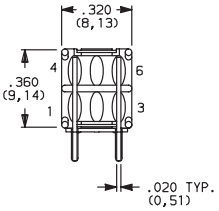
A (STD.) RIGHT ANGLE, PC THRU-HOLE



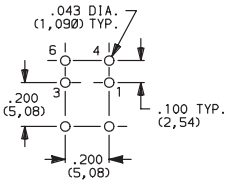
TP21SH9ABE
DPST







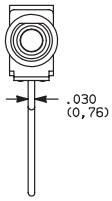
PC MOUNTING

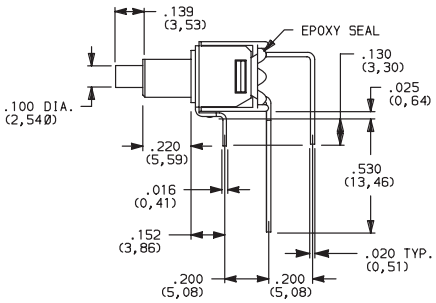


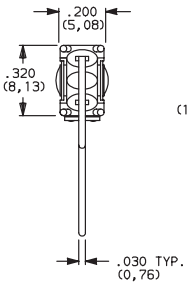
TP21 Only

AV VERTICAL RIGHT ANGLE, PC THRU-HOLE

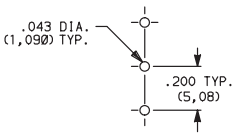
TP11SH9AVBE
SPST







PC MOUNTING

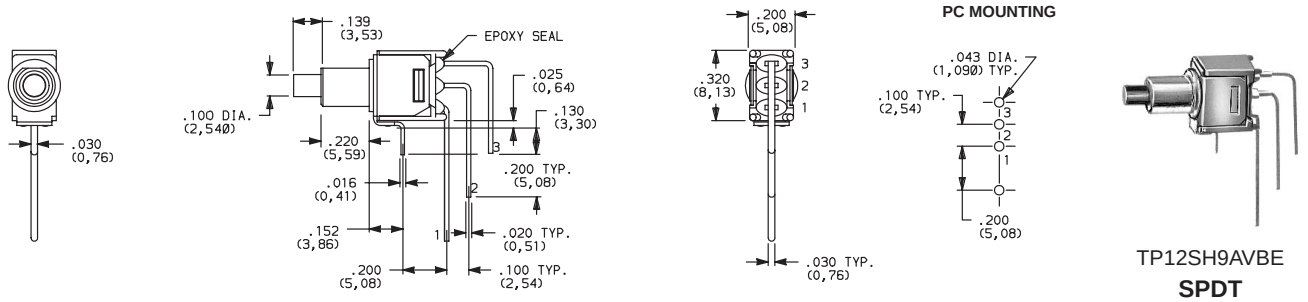


TP11 Only

NOTE: Terminal bend radii and lead-in manufacturing option.

TERMINATIONS

AV VERTICAL RIGHT ANGLE, PC THRU-HOLE

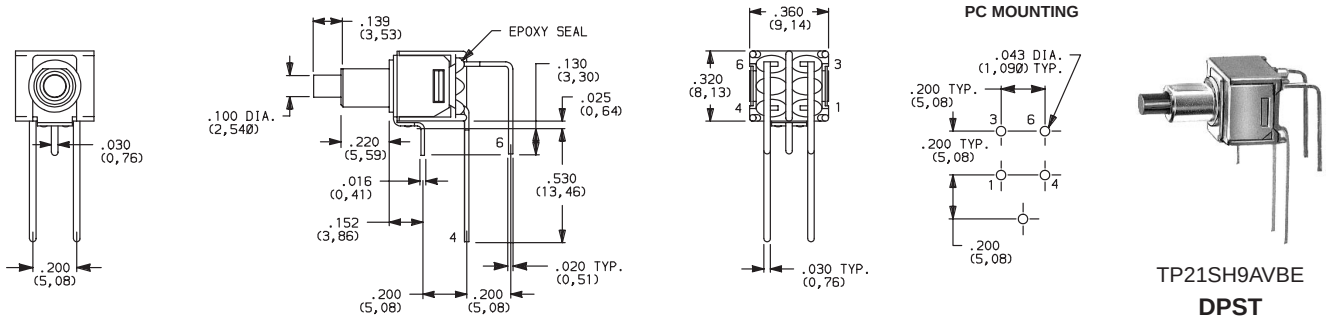


TP12SH9AVBE
SPDT

TP12 Only

NOTE: Terminal bend radii and lead-in manufacturing option.

AV VERTICAL RIGHT ANGLE, PC THRU-HOLE

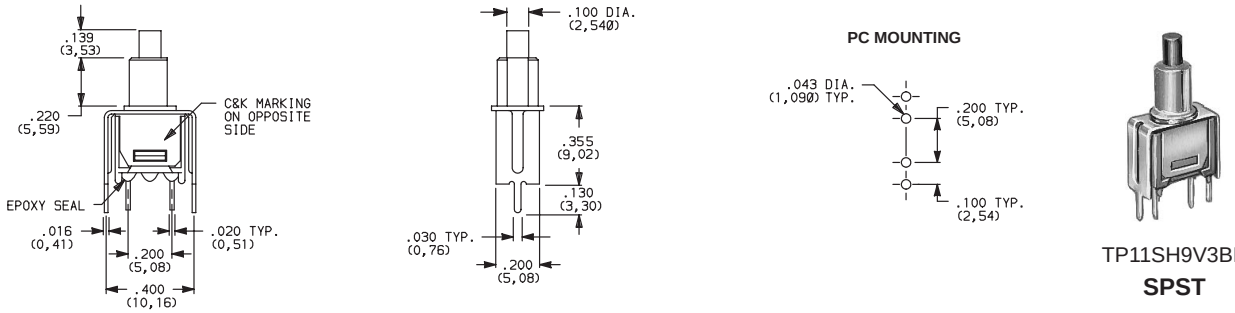


TP21SH9AVBE
DPST

TP21 Only

NOTE: Terminal bend radii and lead-in manufacturing option.

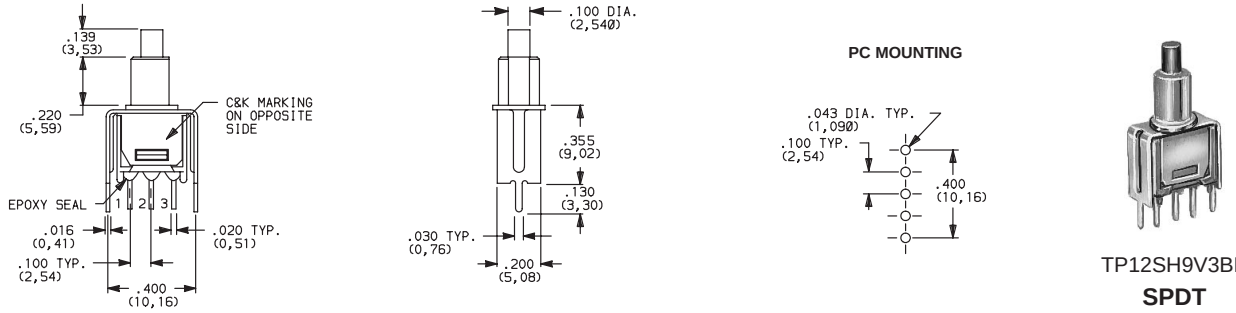
V3 VERTICAL MOUNT, V-BRACKET



TP11SH9V3BE
SPST

TP11 Only

V3 VERTICAL MOUNT, V-BRACKET



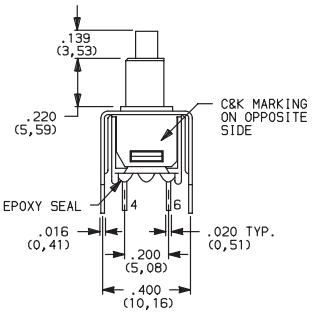
TP12SH9V3BE
SPDT

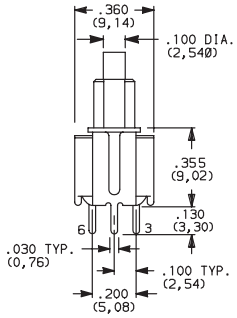
TP12 Only

TERMINATIONS

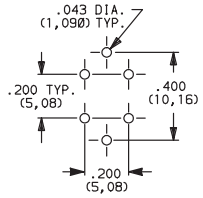
V3 VERTICAL MOUNT, V-BRACKET

TP21SH9V3BE
DPST





PC MOUNTING



TP21 Only

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
B (STD.)	GOLD [1]	GOLD [1]	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
K		TIN-LEAD [6]		
Q (STD.)	SILVER [4,5]	SILVER [5]	POWER	1 AMP @ 120 V AC OR 28 V DC.
M		TIN-LEAD [6]		
G	GOLD OVER SILVER [2,3]	GOLD [3]	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX @ 20 V AC OR DC MAX. OR 1 AMP @ 120 V AC OR 28 V DC.
L		TIN-LEAD [6]		

CONTACT MATERIAL/APPLICATION RECOMMENDATIONS–SEE CHART, PAGE L-31.

[1] CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.

[2] END CONTACTS: Coin silver, with gold plate over nickel plate.

[3] CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.

[4] END CONTACTS: Coin silver, silver plated.

[5] CENTER CONTACTS & ALL TERMINALS: Copper alloy, silver plated.

[6] TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.

All models ® with all options when ordered with G, L, M or Q contact material.

B contact material standard with A, AV, V3 & W terminations.

Q contact material standard with C & Z terminations.

K, L & M contact materials not available with Z terminations.

SEAL

E **(STD.) EPOXY SEAL**